



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.           | CONFIRMATION NO.       |
|--|-------------|----------------------|-------------------------------|------------------------|
| 10/767,077   | 01/30/2004  | Yoshiaki Tanaka      | 0102/0237                     | 6118                   |
| 21395  | 7590        | 09/11/2007           |                               |                        |
| LOUIS WOO<br>LAW OFFICE OF LOUIS WOO<br>717 NORTH FAYETTE STREET<br>ALEXANDRIA, VA 22314 |             |                      | EXAMINER<br>DEBELIE, MITIKU W |                        |
|  |             |                      | ART UNIT<br>2621              | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>09/11/2007       | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/767,077

Applicant(s)

TANAKA ET AL.

Examiner

Mitiku Debelie

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 40 - 43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 40 - 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 02/07, 12/06, 01/04
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The reference listed in the information disclosure statements (IDS) submitted on 02/01/2007, 12/22/2006 and 01/30/2004 have been considered by the examiner.

### ***Double Patenting***

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. Claims 40 – 43 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 40 – 43 of copending Application No. 10/767,076. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

***Obvious Type Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 40 – 43 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 - 4 of U.S. Patent No. 6,738,561. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

| <b>Claim 40 of App. No. 10/767,077</b>  | <b>Claim 1 of Pat. No. 6,738,561</b>   |
|---|--|
| <p>A digital signal recording medium having an area storing an audio title set (ATS), the audio title set (ATS) including data representing a digital audio signal resulting from steps including (1) quantizing a first original audio signal at a first quantization word length and a first sampling frequency, (2) quantizing a second original audio signal into a quantization-resultant audio signal at a second quantization word length and a second sampling frequency, and (3) subjecting the quantization-resultant audio signal to a bit shift, the first original audio signal being in a front channel (Lf, Rf) group having multiple channels, the second original audio signal being in a rear channel (Ls,Rs) group having multiple channels, the first sampling frequency being assigned to each of the channels in the first channel group, the</p> | <p>A digital signal recording medium having a first area storing an audio title set, the audio title set including data representing a digital audio signal resulting from steps including (1) quantizing a first original audio signal at a first sampling frequency, (2) quantizing a second original audio signal into a quantization-resultant audio signal at a second sampling frequency, and (3) subjecting the quantization-resultant audio signal to a bit shift, the first original audio signal being in a first channel group having multiple channels, the second original audio signal being in a second channel group having multiple channels, the first sampling frequency being assigned to each of the channels in the first channel group, the second sampling frequency being assigned to each of the channels in the second channel group the bit shift having a quantity common to the channels in the second</p> |

|  |   |
|--|---|
| <p>second sampling frequency being assigned to each of the channels in the second channel group, the bit shift having a quantity common to the channels in the second channel group;</p> <p>the audio title set (ATS) including data representing the first quantization word length and first sampling frequency and the second quantization word length and second sampling frequency, data representing the quantity of the bit shift and channel assignment information for identifying the channels in the first channel group and the channels in the second channel group</p> | <p>channel group; the audio title set including data representing the first sampling frequency and the second sampling frequency, data representing the quantity of the bit shift and channel assignment information for identifying the channels in the first channel group and the channels in the second channel group; the digital signal recording medium being void of a second area storing a video title set.</p> |
|--|---|

| <b>Claim 41 of App. No. 10/767,077</b>  | <b>Claim 4 of Pat. No. 6,738,561</b>  |
|---|---|
| <p>A signal encoding apparatus comprising:<br/>means for generating information; and<br/>means for formatting the information into a data structure; wherein the data structure has an area containing an audio</p> | <p>A signal encoding apparatus comprising:<br/>means for generating information; and<br/>means for formatting the information into a data structure; wherein the data structure has a first area containing an audio title set,</p> |

|  |   |
|--|---|
| <p>title set (ATS), the audio title set (ATS) including data representing a digital audio signal resulting from steps including (1) quantizing a first original audio signal at a first quantization word length and a first sampling frequency, (2) quantizing a second original audio signal into a quantization-resultant audio signal at a second quantization word length and a second sampling frequency, and (3) subjecting the quantization-resultant audio signal to a bit shift, the first original audio signal being in a front channel (Lf, Rf) group having multiple channels, the second original audio signal being in a rear channel (Ls,Rs) group having multiple channels, the first sampling frequency being assigned to each of the channels in the first channel group, the second sampling frequency being assigned to each of the channels in the second channel group, the bit shift having</p> | <p>the audio title set including data representing a digital audio signal resulting from steps including (1) quantizing a first original audio signal at a first sampling frequency, (2) quantizing a second original audio signal into a quantization resultant-audio signal at a second sampling-frequency, and (3) subjecting the quantization-resultant audio signal to a bit shift, the first original audio signal being in a first channel group having multiple channels, the second original audio signal being in a second channel group having multiple channels, the first sampling frequency being assigned to each of the channels in the first channel group, the second sampling frequency being assigned to each of the channels in the second channel group, the bit shift having a quantity common to the channels in the second channel group; the audio title set including data representing the first sampling</p> |
|--|---|

|   |  |
|---|--|
| <p>a quantity common to the channels in the second channel group; the audio title set (ATS) including data representing the first quantization word length and first sampling frequency and the second quantization word length and second sampling frequency, data representing the quantity of the bit shift and channel assignment information for identifying the channels in the first channel group and the channels in the second channel group.</p> | <p>frequency and the second sampling frequency data representing the quantity of the bit shift and channel assignment information for identifying the channels in the first channel group and the channels in the second channel group; the data structure being void of a second area containing a video title set.</p> |
|---|--|

| <b>Claim 42 of App. No. 10/767,077</b>  | <b>Claim 2 of Pat. No. 6,738,561</b>   |
|---|--|
| <p>An apparatus for decoding the digital audio signal recorded on the digital signal recording medium of claim 40, the audio signal being in the first channel group and the second channel group, the apparatus comprising: means for generating the data representing the first quantization word length and the first sampling frequency</p> | <p>An apparatus for decoding the digital audio signal recorded on the digital signal recording medium of claim 1, the digital audio signal being in the first channel group and the second channel group, the apparatus comprising: means for generating the data representing the first sampling frequency and the second</p> |



|  |  |
|--|--|
| and the second quantization word length and the second sampling frequency, the data representing the quantity of the bit shift, and the channel assignment information for identifying the channels in the front channel group and the channels in the rear channel group; and means for decoding the digital audio signal in the front channel group and the rear channel group in response to the first quantization word length and the first sampling frequency, the second quantization word length and the second sampling frequency, the quantity of the bit shift, and the channel assignment information. | sampling frequency, the data representing the quantity of the bit shift, and the channel assignment information for identifying the channels in the first channel group and the channels in the second channel group; and means for decoding the digital audio signal in the first channel group and the second channel group in response to the first sampling frequency, the second sampling frequency, the quantity of the bit shift, and the channel assignment information. |
|--|--|

| <b>Claim 43 of App. No. 10/767,077</b>   | <b>Claim 3 of Pat. No. 6,738,561</b>  |
|--|---|
| A player for reproducing audio contents from the digital signal recording medium of claim 40 which stores the audio signal in the front channel group and the rear channel group, the player comprising: | A player for reproducing audio contents from the digital signal recording medium of claim 1 which stores the digital audio signal in the first channel group and the second channel group, the player |

|   |  |
|---|--|
| <p>means for generating the data representing the first quantization word length and the first sampling frequency and the second quantization word length and the second sampling frequency, the data representing the quantity of the bit shift, and the channel assignment information for identifying the channels in the front channel group and the channels in the rear channel group; means for decoding the digital audio signal in the front channel group and the rear channel group in response to the first quantization word length and the first sampling frequency, the second quantization word length and the second sampling frequency, the quantity of the bit shift, and the channel assignment information; and means for implementing digital-to-analog conversion of the decoding-resultant audio signal to recover a corresponding analog audio signal.</p> | <p>comprising: means for generating the data representing the first sampling frequency and the second sampling frequency, the data representing the quantity of the bit shift, and the channel assignment information for identifying the channels in the first channel group and the channels in the second channel group; means for decoding the digital audio signal in the first channel group and the second channel group into a decoding-resultant audio signal in response to the first sampling frequency, the second sampling frequency, the quantity of the bit shift, and the channel assignment information; and means for implementing digital-to-analog conversion of the decoding-resultant audio signal to recover a corresponding analog audio signal.</p> |
|---|--|

Note the comparison above; the claims of the instant application are not patentably distinct from the corresponding claims of U.S. Patent No. 6,738,561.

9/9/07  
The U.S. Patent No. 6,738,561 however does ~~is~~ silent on quantizing of audio at different quantization word length. However it is old and well known in the art add different level of quantization word length when designing a digital communication device.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate different level of quantization word length as taught by the instant application to the communication device of the U.S. Patent No. 6,738,561 in order to meet accommodate for deferring noise level whereby reducing signal-to-noise ratio and delivering quality audio.

### ***Inquiry***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mitiku Debelie whose telephone number is (571) 270 1706. The examiner can normally be reached on Mon - Fri 8:00 - 5:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on (571) 272 7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MD  
08/29/2007

  
THAI Q. TRAN  
SUPERVISORY PATENT EXAMINER  
BIOLOGY CENTER 2600